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Jasvantrai Shah

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EXAMINER

WOLDEKIDAN, HIBRET ASNAKE

ART UNIT

PAPER NUMBER

2613

NOTIFICATION DATE

DELIVERY MODE

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ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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Office Action Summary	Application No.	Applicant(s)	
	10/747,646	SHAH, JASVANTRAI	
	Examiner	Art Unit	
	Hibret A. Woldekidan	2613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 February 2011.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Examiner acknowledges receipt of Applicant's Amendments, remarks, arguments received on 02/02/2011. Applicant's arguments have been considered but are not persuasive.

Applicant argument I

1. Applicant argued on Page 3 Paragraph 2 of the remark, "...ERICKSON and WALTERS do not disclose or suggest "causing a working port of an OXC [that is in an optical network] to connect to a protection port of a router in response to detection of a failure signal, where a transmission of low priority data to or from the router [via the protection port] is preempted by a transmission of a high priority data to or from the router, in response to a failure of the router," as recited by claim 1..."

Examiner's Response:

Examiner respectfully disagree because Erickson discusses a router(1502) having a protection port(1522) and a working port(1521A), and OXC having a protection port(1332) and a working port(1541B. Upon detecting of a failure in the router, the router sends a signal to the OXC(1504) indicating a failure, as a result, a working port(1540B) of the OXC(1504) connects to the protection port(1522) of the router(1522)(See Col. 23 lines 28-41, fig. 17b). Yes, it is true that Erickson does not discuss a working port to transmit or receive high priority data and a protection port to transmit or receive low priority data where the transmission of low priority data is

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preempted by the transmission of the high priority data, in response to the failure; and transmitting high priority data via a protection port.

However, Walters teaches a primary port which connects path(5310 of fig. 53, solid line) to transmit or receive high priority data and a secondary port to transmit or receive low priority data(shown by path 5312, dashed line) during normal operation, when a failure occurs affecting the high priority data path, the low priority data path preempted and the high priority data rerouted over the low priority data path(See Paragraph 508,487, fig. 53). Showing that low priority data path can be pre-emitted to transmit high priority data incase of a failure in high priority path. Therefore the combination of Erickson and Walter teaches the argued feature, "...*ERICKSON and WALTERS do not disclose or suggest causing a working port of an OXC (that is in an optical network) to connect to a protection port of a router in response to detection of a failure signal, where a transmission of low priority data to or from the router (via the protection port) is preempted by a transmission of a high priority data to or from the router, in response to a failure of the router...*", the argument is not persuasive.

Applicant argument II

2. Applicant argued on Page 4 Last paragraph of the remark, "... *WALTERS does not disclose or suggest "causing a working port of an OXC [that is in an optical network] to connect to a protection port of a router in response to detection of a failure signal, where a transmission of low priority data to or from the router [via the protection port] is preempted by a transmission of a high priority data to or from the router, in response to a failure of the router," as recited by claim 1...*"

Examiner's Response:

Examiner respectfully disagree because an OXC and a router with working port and protection port, and connecting working port of the OXC with a protection port of the router is taught in the primary reference, Erickson)(See Col. 23 lines 28-41, fig. 17b). The only reason why the secondary reference Walter is introduced is to show a primary path can transmits high priority data and a secondary path can transmits low priority and when a failure occurs affecting the primary path transmitting high priority data, the low priority data path preempted and the high priority data rerouted over the low priority data path(See Paragraph 508,487, fig. 53). Further, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Therefore the argued feature, "...*WALTERS does not disclose or suggest "causing a working port of an OXC [that is in an optical network] to connect to a protection port of a router in response to detection of a failure signal, where a transmission of low priority data to or from the router [via the protection port] is preempted by a transmission of a high priority data to or from the router, in response to a failure of the router," as recited by claim 1...*", is not persuasive.

Applicant argument III

3. Applicant argued on Page 5 Paragraph 2 of the remark, "...*Examiner alleges that OTS B corresponds to a router and that OTS C corresponds to the claimed OXC. Applicant submits that the OTS B cannot reasonably be construed to be a router having*

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a working port to transmit or receive high priority data to or from the working port of the OXC and a protection port to transmit or receive low priority data to or from the spare port of the OXC..."

Examiner's Response:

Examiner respectfully disagrees because in the office action dated 11/12/2010 examiner did not consider *OTS B corresponds to a router and that OTS C corresponds to the claimed OXC. OXC and Router was taught by a primary reference Ericson(See rejection). The secondary reference Walter was used only to show high priority data can be transmitted using a first path(5310 of fig. 53, solid line) and low priority data can be transmitted using a secondary path (shown by path 5312, dashed line) during normal operation. When a failure occurs affecting the high priority data path, the low priority data path preempted and the high priority data rerouted over the low priority data path(See Walter: Paragraph 508,487, fig. 53).*

Therefore the argued feature, "...Examiner alleges that OTS B corresponds to a router and that OTS C corresponds to the claimed OXC. Applicant submits that the OTS B cannot reasonably be construed to be a router having a working port to transmit or receive high priority data to or from the working port of the OXC and a protection port to transmit or receive low priority data to or from the spare port of the OXC..." does not have weight.

Applicant argument IV

4. Applicant argued on Page 9 Paragraph 1 of the remark, *"...CHIU and PAN do not disclose or suggest "a working port [of an OXC] to transmit high priority data to or from a*

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primary router that is external to the optical cross-connect system, where the working port [of the OXC] is connected to the router in response to a failure of the primary router, and where the transmission of low priority data from the router is preempted by the transmission of the high priority data from the router, in response to the failure of the primary router," as recited by claim 11..."

Examiner's Response:

First, Examiner would like to remind the applicant that in the office action dated 11/12/2010 PAN reference was not used. The rejection of claim 11 was based on Chiu in view of Walter references. Therefore the examiner response is based on Chiu in view of Walters.

Examiner respectfully disagrees because Chiu discusses an optical cross connect system(OXC_B) located in a network. This OXC(OXC_B) communicates with a spare port which is a backup router(100_{B2}) that is external to the optical cross-connect system(OXC_B) (See Paragraph 45,47 fig. 3). Further the OXC(OXC_B) also communicates with a primary router which is a working router(100_{B1}) that is external to the optical cross-connect system (See Paragraph 45, fig. 3). The OXC_B port that is used to communicate with a working router(100_{B1}) is considered as a working port. The OXC_B port that is used to communicate with a backup router(100_{B2}) is considered as a spare port. UP on the OXC(OXC_B) detects the failure of the primary router(100_{B1}), the (OXC_B) establish a communication path to the backup router(100_{B2}) so that the working port of the OXC_B is connected to the backup router(**100_{B1}**) in response to a failure of the primary router(**100_{B2}**) (**See Paragraph 45,48, fig. 3,6**).

It is true that Chiu does not specifically disclose a working port to transmit or receive high priority data and a protection port to transmit or receive low priority data where the transmission of low priority data is preempted by the transmission of the high priority data, in response to the failure.

However, Walter, the secondary reference, teaches transmitting high priority data using a first path(5310 of fig. 53, solid line) and transmitting low priority data using a secondary path (shown by path 5312, dashed line) during normal operation. When a failure occurs affecting the high priority data path, the low priority data path preempted and the high priority data rerouted over the low priority data path(See Paragraph 508,487, fig. 53). Therefore the argued feature, Chiu and the secondary reference, Walter does not teach "...*"a working port [of an OXC] to transmit high priority data to or from a primary router that is external to the optical cross-connect system, where the working port [of the OXC] is connected to the router in response to a failure of the primary router, and where the transmission of low priority data from the router is preempted by the transmission of the high priority data from the router, in response to the failure of the primary router," as recited by claim 11..."* is not persuasive.

Applicant argument IV

5. Applicant argued on Page 10 Paragraph 1 of the remark, "...CHIU do not even mention that a working port of an OXC is connected to a router in response to a failure of a primary router..."

Examiner's Response:

Examiner respectfully disagrees because Chiu discusses in Paragraph 45, upon a failure in a working or primary router(100_{B1}) detected, the optical cross connect system(OXC_B) setup a new transmission path link to a backup router(100_{B2}). This shows that optical cross connect system(OXC_B) is coupled to a backup router(100_{B2}). Further discussed in Paragraph 45, the new transmission path can use the same failed link port of the OXC(OXC_B) that was connected to the failed primary router(100_{B1}) to communicate with the backup router(100_{B2}). This shows that the working port of the OXC(OXC_B) which was connected to the failed working router(100_{B1}) to connect to a backup router of an OXC(100_{B2}). Therefore the argued feature, "...CHIU do not even mention that a working port of an OXC is connected to a router in response to a failure of a primary router..." is not persuasive.

Concerning the applicant's argument regarding motivation to combine the references, the motivation to combine was shown in the secondary references, Walter.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim 1-10 and 15-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Erickson et al (6,882,765) in view of Walters(US 2002/0176131).

Considering claim 1, Erickson discloses a method comprising: providing, in an optical network, an optical cross-connect system (OXC) having a working port and a spare port(See Col. 23 lines 33-41, fig. 17b i.e. **providing an OXC(1504) having a working port(1541B) and a protection port(1332). Further as discussed in Col. 13 lines 10-21, an optical cross-connect(OXC) deployed in a telecommunication network which communicates with other network equipments(routers) via optical transmission links(1506). This shows that the OXC is provided in an optical network**)); providing a router having a working port to transmit or receive data to or from the working port of the OXC and a protection port to transmit or receive data to or from the spare port of the OXC(See Col. 20 lines 22-26, Col. 23 lines 33-41, fig. 17b i.e. **the a router(1502) having a working port (1521_A) and a protection port(1522) to bidirectionally receive and transmit optical signals from the OXC(1504))**); detecting a failure in the router(See Col. 22 lines 64-67, fig. 17b i.e. **detecting a failure in the router(1502) by a port 1521A**); sending a signal from the router to the OXC(See Col. 23 lines 1-8, fig. 17b i.e. **after the router(1502) detects a failure in one of the links(1702), the router(1502) sends a signal to the OXC**)), where the signal indicates the failure(See Col. 23 lines 1-8 and lines 28-41, fig. 17b i.e. **sending failure indicating signal from the router(1502) to the oxc(1504)**); causing the working port of the OXC to connect to the protection port of the router in response to detection of the signal(See Col. 23 lines 28-41, fig. 17b i.e. **fig. 17 b illustrates that after the router(1502) detects a failure in one of the links(1702), the router(1502) sends a signal to the OXC(1504), as a result, a working port(1540B)**

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of the OXC(1504) to connect to the protection port(1522) of the router(1522)) and transmitting data from the router to the OXC via the protection port(See Col. 23 lines 34-41, fig. 17b i.e. fig. 17 the OXC working port(1541B) connects to the router protection port(1522) to transmit signal via the protection port).

Erickson discloses a router(1502) having a protection port(1522) and a working port(1521A) (See Col. 20 lines 22-26, Col. 23 lines 33-41, fig. 17b i.e. the a router(1502) having a working port (1521_A) and a protection port(1522) to bidirectionally receive and transmit optical signals from the OXC(1504)), and OXC having a protection port(1332) and a working port(1541B)(See Col. 23 lines 33-41, fig. 17b i.e. providing an OXC(1504) having a working port(1541B) and a protection port(1332)). UPON detecting of a failure in the router, transmitting data using a protection port(See Col. 23 lines 28-41, fig. 17b i.e. fig. 17 b Upon router detects a failure in one of the links(1702), the router(1502) sends a signal to the OXC(1504), as a result, a working port(1540B) of the OXC(1504) connects to the protection port(1522) of the router(1522)).

Erickson does not explicitly disclose a working port to transmit or receive high priority data and a protection port to transmit or receive low priority data where the transmission of low priority data is preempted by the transmission of the high priority data, in response to the failure; and transmitting high priority data via a protection port.

Walters teaches a working port to transmit or receive high priority data (See Paragraph 508, fig. 53 i.e. during normal operation, transmitting a high priority data using path(5310, shown by a solid line). The first path) and a protection port to

transmit or receive low priority data (**See Paragraph 508, fig. 53 i.e. during normal operation, transmitting low priority data using path(5312, shown by a dashed line))** where the transmission of low priority data is preempted by the transmission of the high priority data, in response to the failure(**See Paragraph 487,508, fig. 53 i.e. when a failure occurs affecting the high priority data path, the low priority data path preempted and rerouting the high priority data over the low priority data path**); and transmitting high priority data via a protection port(**See Paragraph 487,508, fig. 53 i.e. transmitting high priority data using the low priority data path**).

It would have been obvious to one skilled in the art at the time the invention was made to modify the invention of Erickson, and have a working port of to transmit or receive high priority data and a protection port to transmit or receive low priority data where the transmission of low priority data to be preempted by the transmission of the high priority data, in response to the failure; and transmitting high priority data via a protection port, as taught by Walters, thus providing a reliable and efficient data transmission system by utilizing the usage of bandwidth by using protection path to carry pre-emptable traffic so that incase of a failure, high priority data can be transmitted using the preemtable protection path so that data loss can be minimized and time sensitive data can reach their destination in a timely manner, as discussed by Walters(**Paragraph 6**).

Considering claim 2 Erickson discloses the method of claim 1, where the sending further comprises: sending the signal as an in-band signal, to the OXC (**See abstract, Col. 25 lines 53-57(claim 14), Col. 23 lines 2-5, Col. 25 lines 44-47 i.e. sending**

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failure signaling channel from the router to the OXC(See Col. 23 lines 2-5) to inform connection failure and this signaling channel is an in-band signaling channel(See Col. 25 lines 44-47)).

Considering claim 3 Erickson discloses the method of claim 2, where the sending an in-band signal to the OXC further comprises: sending a Synchronous Optical Network (SONET) signal to the OXC **(See abstract, Col. 20 lines 5-10 i.e. Communicating SONET channels with the OXC).**

Considering claim 4 Erickson discloses, the method of claim 1, where the sending further comprises: sending the signal as an out-of-band signal to the OXC **(See abstract, Col. 25 lines 22-24(claim 8), Col. 23 lines 2-5, Col. 25 lines 44-47 i.e. An out of band channel or an in band channel can be used to indicate connection failure(See abstract). Erickson further discussed, sending a failure signaling channel from the router to the OXC(See Col. 23 lines 2-5) to inform connection failure and this signaling channel can be an out-of-band signaling channel(See Col. 25 22-24(claim 8), Col. 28 lines 27-31). The out-of-band signaling channel is a dedicated signaling link (See Col. 19 lines 13-18))).**

Considering claim 5 Erickson discloses, the method of claim 4, where the sending an out-of-band signal comprises: the step of addressing the out-of-band signal to an Internet Protocol address associated with the OXC **(See Col. 19 lines 1-9 i.e. internet protocol associated with OXC).**

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Considering claim 6 Erickson discloses a method comprising: providing, in an optical network, an optical cross-connect system (OXC) having a working port and a spare port(See Col. 23 lines 33-41, fig. 17b i.e. providing an OXC(1504) having a working port(1541B) and a protection port(1332). Further as discussed in Col. 13 lines 10-21, an optical cross-connect(OXC) deployed in a telecommunication network which communicates with other network equipments(routers) via optical transmission links(1506). This shows that the OXC is provided in an optical network)); providing a router having a working port to transmit or receive data to or from the working port of the OXC and a protection port to transmit or receive data to or from the spare port of the OXC(See Col. 23 lines 33-41, fig. 17b i.e. a router(1502) having a working port (1521_{A-N}) and a protection port(1522) to receive and transmit optical signals from the OXC(1504)); receiving a signal at the OXC from the router, the signal indicating a failure of a working port in the router(See Col. 23 lines 1-5 and lines 28-30, fig. 17b i.e. the OXC(1504) receiving an error indicative signal from the router(1502) after the router(1502) detects a failure in one of the working paths(1506A'-N')); connecting the protection port of the router to the working port of the OXC in response to receiving the signal (See Col. 23 lines 1-5 and lines 28-41, fig. 17b i.e. after the router(1502) detects a failure in one of the links(1702), the router(1502) sends a signal to the oxc(1504). In response, the OXC working port(1541B) connects to the router(1502) protection port(1522)).

Ericson discloses a router(1502) having a protection port(1522) and a working port(1521A) (See Col. 20 lines 22-26, Col. 23 lines 33-41, fig. 17b i.e. the a

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router(1502) having a working port (1521_A) and a protection port(1522) to bidirectionally receive and transmit optical signals from the OXC(1504)), and OXC having a protection port(1332) and a working port(1541B)(See Col. 23 lines 33-41, fig. 17b i.e. providing an OXC(1504) having a working port(1541B) and a protection port(1332)). UPON detecting of a failure in the router, transmitting data using a protection port(See Col. 23 lines 28-41, fig. 17b i.e. fig. 17 b Upon router detects a failure in one of the links(1702), the router(1502) sends a signal to the OXC(1504), as a result, a working port(1540B) of the OXC(1504) connects to the protection port(1522) of the router(1522)).

Erickson does not explicitly disclose a working port to transmit or receive high priority data and a protection port to transmit or receive low priority data where the transmission of low priority data is preempted by the transmission of the high priority data, in response to the failure; and transmitting high priority data via a protection port.

Walters teaches a working port to transmit or receive high priority data (**See Paragraph 508, fig. 53 i.e. transmitting a high priority data using path(5310, shown by a solid line))** and a protection port to transmit or receive low priority data (**See Paragraph 508, fig. 53 i.e. transmitting low priority data using path(5312, shown by a dashed line))** where the transmission of low priority data is preempted by the transmission of the high priority data, in response to the failure(**See Paragraph 487,508, fig. 53 i.e. when a failure occurs affecting the high priority data path, the low priority data path preempted and rerouting the high priority data over the low priority data path**); and transmitting high priority data via a protection port(**See**

Paragraph 487,508, fig. 53 i.e. transmitting high priority data using the low priority data path).

It would have been obvious to one skilled in the art at the time the invention was made to modify the invention of Erickson, and have a working port to transmit or receive high priority data and a protection port to transmit or receive low priority data where the transmission of low priority data to be preempted by the transmission of the high priority data, in response to the failure; and transmitting high priority data via a protection port, as taught by Walters, thus providing a reliable and efficient data transmission system by utilizing the usage of bandwidth by using protection path to carry pre-emptable traffic so that incase of a failure, high priority data can be transmitted using the preemptable protection path so that data loss can be minimized and time sensitive data can reach their destination in a timely manner, as discussed by Walters(**Paragraph 6**).

Considering claim 7 Erickson discloses the method of claim 6, where the receiving further comprises: receiving an in-band signal, from the protection port of the router, at the OXC (**See abstract, Col. 25 lines 53-57(claim 14), Col. 23 lines 2-5, Col. 25 lines 44-47 i.e. receiving failure signaling channel from the router to the OXC(See Col. 23 lines 2-5) and this signaling channel is an in-band signaling channel(See Col. 25 lines 44-47). The in-band signaling channel is a dedicated signaling link used in parallel with each of the working link(See Col. 25 lines 53-57(claim 14)). This shows that the signaling channel is transmitted not using a working channel but using a spare channel. Erickson further discusses providing signaling interface using a protection or a spare path(See Col. 18 lines 29-31)).**

Considering claim 8 Erickson discloses the method of claim 7, where the receiving an in-band signal at the OXC comprises: receiving a Synchronous Optical Network (SONET) signal at the OXC **(See abstract, Col. 20 lines 5-10 i.e. Communicating SONET channels with the OXC).**

Considering claim 9 Erickson discloses the method of claim 6, where the receiving further comprises: receiving an out-of-band signal at the OXC **(See abstract, Col. 25 lines 22-24(claim 8), Col. 23 lines 2-5, Col. 25 lines 44-47 i.e. An out of band channel or an in band channel can be used to indicate connection failure(See abstract). Erickson further discussed, receiving a failure signaling channel from the router to the OXC(See Col. 23 lines 2-5) to inform connection failure and this signaling channel can be an out-of-band signaling channel(See Col. 25 22-24(claim 8), Col. 28 lines 27-31). The out-of-band signaling channel is a dedicated signaling link (See Col. 19 lines 13-18))).**

Considering claim 10 Erickson discloses, the method of claim 9, where the receiving an out-of-band signal further comprises: addressing the out-of-band signal to an Internet Protocol address associated with the OXC **(See Col. 19 line 1-9 i.e. internet protocol associated with OXC).**

Considering claim 15, Erickson discloses a communications network for transmitting data, the communication network comprising: an optical cross-connect system (OXC) having a working port and a spare port, the OXC being located in an optical network**(See Col. 23 lines 33-41, fig. 17b i.e. providing an OXC(1504) having a working port(1541B) and a protection port(1332). Further as discussed in Col.**

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13 lines 10-21, an optical cross-connect(OXC) deployed in a telecommunication network which communicates with other network equipments(routers) via optical transmission links(1506). This shows that the OXC is located in an optical network)); and a router for receiving the data from a terminal(See Col 19 lines 1-7 i.e. a router which is a client node(1502) for receiving data from other units), the router comprising:

a working port to transmit or receive data to or from the working port of the OXC(See Col. 20 lines 22-26, fig. 17B i.e. the router(1502) has a working port(1521A) to transmit data bidirectionally to/from the OXC(1504)); and a protection port (See Col. 23 lines 34-36, fig. 17B i.e. the router(1502) has a protection port(1522) to bidirectionally communicate with protection port of the OXC(1504)), where upon detection of a failure of the working port of the router, the input protection port of the router connects to the working port of the OXC (Col. 23 lines 28-41, Col. 22 lines 57-60,fig. 17b i.e. upon detecting of failure in the working port of a router(1531A), the router(1502) internally switches from its working port(1521) to its protection port(1532) to transmit signal to the working port(1541B) of the OXC(1504)).

Erickson discloses a router(1502) having a protection port(1522) and a working port(1521A) (See Col. 20 lines 22-26, Col. 23 lines 33-41, fig. 17b i.e. the a router(1502) having a working port (1521_A) and a protection port(1522) to bidirectionally receive and transmit optical signals from the OXC(1504)), and OXC having a protection port(1332) and a working port(1541B)(See Col. 23 lines 33-41, fig. 17b i.e. providing an OXC(1504) having a working port(1541B) and a protection

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port(1332)). UPON detecting of a failure in the router, transmitting data using a protection port(See Col. 23 lines 28-41, fig. 17b i.e. fig. 17 b Upon router detects a failure in one of the links(1702), the router(1502) sends a signal to the OXC(1504), as a result, a working port(1540B) of the OXC(1504) connects to the protection port(1522) of the router(1522)).

Erickson does not explicitly disclose a working port to transmit or receive high priority data and a protection port to transmit or receive low priority data where the transmission of low priority data is preempted by the transmission of the high priority data, in response to the failure; and transmitting high priority data via a protection port.

Walters teaches a working port to transmit or receive high priority data (**See Paragraph 508, fig. 53 i.e. transmitting a high priority data using path(5310, shown by a solid line))** and a protection port to transmit or receive low priority data (**See Paragraph 508, fig. 53 i.e. transmitting low priority data using path(5312, shown by a dashed line))** where the transmission of low priority data is preempted by the transmission of the high priority data, in response to the failure(**See Paragraph 487,508, fig. 53 i.e. when a failure occurs affecting the high priority data path, the low priority data path preempted and rerouting the high priority data over the low priority data path**); and transmitting high priority data via a protection port(**See Paragraph 487,508, fig. 53 i.e. transmitting high priority data using the low priority data path**).

It would have been obvious to one skilled in the art at the time the invention was made to modify the invention of Erickson, and have a working port to transmit or receive

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high priority data and a protection port to transmit or receive low priority data where the transmission of low priority data to be preempted by the transmission of the high priority data, in response to the failure; and transmitting high priority data via a protection port, as taught by Walters, thus providing a reliable and efficient data transmission system by utilizing the usage of bandwidth by using protection path to carry pre-emptable traffic so that in case of a failure, high priority data can be transmitted using the pre-emptable protection path so that data loss can be minimized and time sensitive data can reach their destination in a timely manner, as discussed by Walters(**Paragraph 6**).

Considering Claim 16 Erickson discloses the communications network of claim 15, where the router transmits a signal indicating the failure to the OXC, the signal causing the OXC to connect the input protection port to the input working port of the OXC (**See Col. 23 line 6-27, fig. 15 i.e. router transmit signal in case of a failure**).

Considering claim 17 Erickson disclose, the communications network of claim 16, where the signal is an in-band signal (**See abstract i.e. in-band signal**)

Considering claim 18 Erickson disclose, the communications network of claim 17, where the in-band signal is a Synchronous Optical Network (SONET) signal (**See Col. 20 lines 5-10 i.e. SONET channels**)

Considering claim 19 Erickson discloses the communications network of claim 16, where the signal is an out-of-band signal (**See Abstract, Col. 2 lines 63-67 and Col. 3 lines 1-3, Col. 16 i.e. an out-of-band signal**).

Considering claim 20 Erickson discloses, the communications network of claim 19, where the out-of-band signal is addressed to an Internet Protocol address associated with the OXC (**See Col. 19 lines 1-9 i.e. internet protocol associated with OXC**).

3. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chiu et al (US 2002/0063916) in view of Walters(US 2002/0176131).

Considering Claim 11 Chiu discloses an optical cross-connect system, located in an optical network, the optical cross-connect system (**See Paragraph 45, fig. 3 i.e. an optical cross connect system(OXC_B) located in a network**) comprising: a spare port to transmit data to or from a router that is external to the optical cross-connect system(**See Paragraph 45,47 fig. 3 i.e. the optical cross connect (OXC_B) inherently has a port to communicate with a backup router(100_{B2}) which is external to OXC_B**); and a working port to transmit data to or from a primary router that is external to the optical cross-connect system(**See Paragraph 45, fig. 3 i.e. the optical cross connect (OXC_B) inherently has a working port in order to communicate with a working router(100_{B1}) which is external to OXC_B**), where the working port is connected to the router in response to a failure of the primary router(**See Paragraph 45,48, fig. 3,6 i.e. UP on the OXC(OXC_B) detects the failure of the primary router(100_{B1}), the (OXC_B) setup a new connection to the backup router(100_{B2})**). Further the new transmission path can use the same failed link port of the OXC(OXC_B) to communicate with the backup router(see paragraph 45)).

Chiu discloses upon detecting a failure in the primary/working router((**100_{B1}**)), the **OXC(OXC_B)** establishing a light path with a backup router(**100_{B1}**)(**See Paragraph 45,48, figs. 3,6**).

Chiu does not specifically disclose a working port to transmit or receive high priority data and a protection port to transmit or receive low priority data where the transmission of low priority data is preempted by the transmission of the high priority data, in response to the failure.

Walters teaches a working port to transmit or receive high priority data (**See Paragraph 508, fig. 53 i.e. transmitting a high priority data using path(5310, shown by a solid line)**) and a protection port to transmit or receive low priority data (**See Paragraph 508, fig. 53 i.e. transmitting low priority data using path(5312, shown by a dashed line)**) where the transmission of low priority data is preempted by the transmission of the high priority data, in response to the failure(**See Paragraph 487,508, fig. 53 i.e. when a failure occurs affecting the high priority data path, the low priority data path preempted and rerouting the high priority data over the low priority data path**).

It would have been obvious to one skilled in the art at the time the invention was made to modify the invention of Chiu, and have the transmission of low priority data to be preempted by the transmission of the high priority data, in response to the failure, as taught by Walters, thus providing a reliable and efficient data transmission system by utilizing the usage of bandwidth by using protection path to carry pre-emptable traffic so that incase of a failure, high priority data can be transmitted using the preemptable

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protection path so that data loss can be minimized and time sensitive data can reach their destination in a timely manner, as discussed by Walters(**Paragraph 6**).

3. Claims 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chiu et al (US 2002/0063916) in view of Walters(US 2002/0176131) further in view of Erickson et al (6,882,765).

Considering claim 12, Chiu and Walters do not explicitly disclose the optical cross-connection system of claim 11, where the working port is connected to the router in response to receiving an inband signal from the router.

Erickson teaches the working port is connected to the router in response to receiving an in-band signal from the router(**See abstract, Col. 23 line 17-27, fig. 17B i.e. in-band signaling between the working port of the OXC and router**).

It would have been obvious to one skilled in the art at the time the invention was made to modify the invention of Chiu and Walters, and have the OXC working port to be connected to the router in response to receiving an in-band signal from the router, as taught by Erickson, thus allowing a means of minimizing the time to customer service interruption during switching from the failed port to the protection port by having both ports in the same unit, as discussed by Erickson (**Col. 2 line 63-Col. 3 line 1**).

Considering claim 13, Chiu and Walters do not specifically disclose the optical cross connection system of claim 12, where the working port is connected to the router in response to receiving a Synchronous Optical Network (SONET) signal from the router

Erickson teaches the optical cross connection system of claim 12, where the working port is connected to the router in response to receiving a Synchronous Optical

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Network (SONET) signal from the router (**See Col. 19 lines 1-7, Col. 23 line 6-27, fig. 15 i.e. working port is connected to a router in case of a failure in primary path**).

It would have been obvious to one skilled in the art at the time the invention was made to modify the invention of Chiu and Walters, and the OXC working port to be connected to the router in response to receiving a Synchronous Optical Network (SONET) signal from the router for the same reason as discussed in claim 12

Considering claim 14, Chiu and Walters do not specifically disclose the optical cross-connection system of claim 11, where the working port is connected to the router in response to receiving an out-of-band signal from the router.

Erickson teaches the optical cross-connection system of claim 11, where the working port is connected to the router in response to receiving an out-of-band signal from the router (**See Col. 2 lines 63-67 and Col. 3 lines 1-3, Col. 16 lines 28-46 i.e. working port is connected to a router in response to an out of bound signal**).

It would have been obvious to one skilled in the art at the time the invention was made to modify the invention of Chiu and Walters, and the working port is connected to the router in response to receiving an out-of-band signal from the router for the same reason as discussed in claim 12.

Conclusions

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

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TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hibret A. Woldekidan whose telephone number is (571)270-5145. The examiner can normally be reached on 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth Vanderpuye can be reached on 5712723078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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